REMARKS

Claims 1-32 are pending and are unamended. Withdrawal of the outstanding rejections is respectfully requested for at least the reasons set forth below.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 16 and 18 were rejected as for allegedly failing to define the words "alias address" and "transport address" and failing to describe their function and how they are related to each other. Applicants respectfully traverse this rejection. An alias address and transport address are described in conjunction with a gatekeeper in two locations in the present specification, as follows:

> In one embodiment of the present invention, the activation of the communication between the VMSC and the packet data network in the registration method may include initiating a new Packet Data Protocol ("PDP") context by the VMSC, establishing a record for the wireless communication device by a Gateway GPRS Support Node ("GGSN"), and enabling an Internet-Protocol ("IP") communication between a gatekeeper ("GK") and the VMSC. The GGSN communicates with the packet data network through the GK and with the VMSC through a supporting Serving GPRS Support Node ("SGSN"). In addition, the registration of the wireless communication device to the packet data network may include initiating the registration and notifying the GK of the packet data network by the VMSC with an alias address and a transport address, creating a record by the GK for the mobile phone containing corresponding information of a mobile phone number to an IP address, and notifying the VMSC of the completion of the registration by the GK. The VMSC then establishes Mobility Management ("MM") and PDP context and stores the context in a mobile phone record of the VMSC. (page 7, lines 3-17)

> After activation step 1.6, the registration of the wireless communication device to the packet data network is performed at step 1.7. In one particular embodiment using a H.323 packet data network, H.323 registration is performed. For H.323 registration, the VMSC initiates H.323 registration and notifies the GK in the H.323 network of the corresponding information of an alias address to a transport address. Upon receiving the registration request of a mobile phone, the GK creates a record regarding the mobile phone that contains the corresponding information of a mobile phone number to an IP address. The GK then notifies the VMSC of the completion of H.323 registration. Upon receiving the notification, the

> VMSC establishes MM and PDP context and stores the context in the mobile phone record of the VMSC. The VMSC notifies the wireless communication device of a location update operation at step 1.8. In one embodiment, the VMSC notifies a mobile phone that a location update request has been accepted. Registration is therefore completed. (page 21, line 16 through page 22, line 6)

The present specification uses an alias addresses and a transport address in conjunction with a gatekeeper in a conventional manner. As is well-known in the art, a gatekeeper translates an alias address to a transport address. An alias address may be an H.323 identifier, a telephone number, a URL, an IP network address, or an email address. A transport address may be an IP network address.

Claims 16 and 18 both recite "notifying a gatekeeper...with an alias address and a transport address..." As described above, a gatekeeper requires this data to perform its translation function. Accordingly, it is believed that claims 16 and 18 are enabling with respect to the alias address and transport address because they are used by a gatekeeper in the conventional manner.

As further evidence of the conventional use of the claimed alias address and transport address, the following literature excerpts are provided (underlining added for emphasis):

> 2.1.3 Gatekeepers[1]
>
> It is the most vital component of the H.323 system and dispatches the duties of a "manager". It acts as the central point for all calls within its zone (A zone is the aggregation of the gatekeeper and the endpoints registered with it) and provides services to the registered endpoints. Some of the functionalities that gatekeepers provide are listed below
>
> [DataBeam][H.323]:
> Address Translation: Translation of an alias address to the transport address. This is done using the translation table which is updated using the Registration messages.
>
> Admissions Control : Gatekeepers can either grant or deny access based on call authorization, source and destination addresses or some other criteria.

[1] Arora, Rakesh, Voice over IP: Protocols and Standards, excerpt of article from web site: http://www.cis.ohio-state.edu/jain/cis788-99/voip_protocols/index.html, posted February 7, 2000.

Call signaling : The Gatekeeper may choose to complete the call signaling with the endpoints and may process the call signaling itself. Alternatively, the Gatekeeper may direct the endpoints to connect the Call Signaling Channel directly to each other.

Call Authorization: The Gatekeeper may reject calls from a terminal due to authorization failure through the use of H.225 signaling. The reasons for rejection could be restricted access during some time periods or restricted access to/from particular terminals or Gateways.

Bandwidth Management: Control of the number of H.323 terminals permitted simultaneously access to the network. Through the use of H.225 signaling, the Gatekeeper may reject calls from a terminal due to bandwidth limitations.

Call Management: The gatekeeper may maintain a list of ongoing H.323 calls. This information may be neccesary [sic] to indicate that a called terminal is busy, and to provide information for the Bandwidth Management function.

1. Gatekeeper Environment[2]

Identifying endpoints in a zone is done using IP addresses, alias names (such as H.323 identifiers, e-mail addresses, and universal resource locators [URLs]) or phone numbers. The gatekeeper is the focal point for insertion of logic into the H.323 network.

2. Mandatory Features

The mandatory features of the gatekeeper...include...address translation...

Address Translation

The gatekeeper provides address translation between alias and transport addresses upon an endpoint's request for service. As users typically do not know the IP addresses of other terminals (or entities) they wish to call, the gatekeeper translates an alias address (H.323 identifier, URL, phone number, or e-mail address) to a transport address.

[2] Web ProForum Tutorials: Gatekeeper, excerpt of article from web site: http://www.iec.org/online/tutorials/acrobat/gatekeep.pdf, Copyright © The International Engineering Consortium.

Rejection under 35 U.S.C. § 103(a)

Claims 1-14, 17, 19-20, 22, 25-26, 28-29 and 31 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Barany et al. (hereafter, "Barany") in view of Duncan et al. (hereafter, "Duncan") and further in view of Lupien et al. (hereafter, "Lupien"). Claims 24 and 27 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Barany et al. in view of Duncan et al. and further in view of Sayers et al. (hereafter, "Sayers"). Applicants respectfully traverse these rejections.

1. Barany cannot be modified in view of Duncan as proposed by the Examiner

Barany's invention is directed to a new functional node, also referred to as a PSTN gateway, disposed between a traditional network (i.e., a circuit-switched network) and an IP network (i.e., a packet-switched network). See, column 4, lines 1-3. As described in the last line of the Abstract, the new PSTN gateway can handle both signaling and bearer traffic, whereas the prior art gateway can handle only signaling.

Referring to Figs. 2 and 3 of Barany, the associated elements are as follows:

PSTN gateway 212, 312
circuit-switched network 203/204, 303/304 (see column 4, line 17)
packet-switched network 206, 306 (see column 4, line 15-19)

The PSTN gateway 212, 312 includes a call agent and a media gateway (MG) 313. The signaling data is sent to the call agent 212, 312 from the SS7 network 204, 304 and the bearer data is sent to the MG 213, 313. The MG 213, 313 performs the appropriate conversions and sends the output (media packets) to the packet-switched network 206, 306 (GPRS-136 network). See, column 4, lines 43-52.

Barany's invention is specifically directed to the replacement of the prior art terminating network 105 (see Fig. 1) with the PSTN gateway 212, 213, thereby allowing both signaling and bearer traffic to be sent from the IP network 211, 311 to the packet-switched network 206, 306. This is clearly illustrated by the addition of the dot/dash lines in Figs. 2 and 3, which do not appear in the conventional Fig. 1 configuration, as further described in column 5, lines 18-22 of Barany.

The last paragraph of page 4 in the Examiner's rejection asserts that it would have been obvious to co-locate the MG 313 within an MSC. In Barany, this would require moving the MG 313 into the circuit-switched network 303/304. The Examiner further asserts that this modification is supported by Duncan because Duncan discloses an MSC 100 which comprises a vocoder and a packet switch. The Examiner's proposed modification of Barany is improper for at least the following reasons.

First, moving MG 313 into the circuit-switched network 303/304 would completely destroy the intended manner of operation of Barany's configuration because the PSTN gateway would no longer be able to allow both signaling and bearer traffic to be sent from the IP network 311 to the packet-switched network 306. It may be possible to further reconstruct Barany so as to not lose this functionality, but this would require a wholesale re-engineering of Barany. Alternatively, if the Examiner proposes to merely duplicate MG 313 in the circuit-switched network 303/304, thereby leaving it intact in the PSTN gateway 312, then this would also require a complete revision of Barany since the modified configuration would need to account for the duplicated functionality.

Second, Duncan does not disclose or suggest any elements equivalent to a media gateway. Thus, Duncan cannot provide any motivation to move Barany's MG 313 into the circuit-switched network 303/304 or to duplicate it therein. At best, Duncan might suggest that the vocoder in Barany be made part of the circuit-switched network 303/304. However, Barany even teaches away from that modification in column 3, lines 55-56 which states that the preferred embodiment bypasses the vocoder.

A base reference cannot be modified if doing so would destroy its intended manner of operation as stated in MPEP 2143.01 The Examiner's proposed modification to Barany would clearly destroy Barany's intended manner of operation and thus is improper.

2. Neither Barany, nor Barany in view of Duncan and Lupien et al., nor Barany in view of Duncan and Sayers disclose or suggest the claimed VMSC

In the Office Action, the Examiner asserts that the combination of the following three elements in Barany comprises a VMSC:

1. vocoder of an MSC

2. MG 313

3. element 303, which is actually part of a circuit-switched network

The Examiner then relies upon Duncan as described above to incorporate all of these elements into a single element since these elements are all separate in Barany. Since Barany cannot be properly modified in view of Duncan as proposed by the Examiner, Barany cannot disclose or suggest the claimed VMSC. Nor does Lupien or Sayers make up for the above-noted deficiencies in Barany. The Examiner relies upon Lupien and Sayers for another limitation which is missing from Barany.

Referring to exemplary claim 1, the only possible element in Barany that could potentially be equivalent to the VMSC would be the PSTN gateway 212, 312 because this is the only element that communicates with a packet communication element (i.e., IP network 214, 314) through a packet-switched network (i.e., packet-switched network 206, 306) and also communicates with a base station (i.e., BSSx 202, 302) through a circuit-switched network (i.e., circuit-switched network 203/204, 303/304). However, this analogy also completely fails because the PSTN gateway is not a voice-over-IP mobile switch center, and because Barany discloses that its mobile switch center is part of the circuit-switched network.

3. Each independent claim recites the VMSC and thus each independent claim is patentable over the applied combination of references

The VMSC is claimed in each of the independent claims as follows:

a Voice-over-Internet-Protocol Mobile Switching Center ("VMSC") communicating with the packet communication supporting subsystem through a packet-switched network and communicating with the base station subsystem through a circuit-switched network (claim 1)

a VoIP Mobile Switching Center ("VMSC") communicating with the SGSN through a packet-switched network and communicating with the BSC through a circuit-switched network (claim 12)

the VMSC communicating with the wireless communication device through a circuit-switched network and communicating with the end terminal through a packet-switched network (claim 13)

the VMSC communicating with the mobile phone through a circuit-switched network and with the H.323 terminal through a packet-switched network (claim 18)

the VMSC communicating with the wireless communication device through a circuit-switched network and with the end terminal through a packet-switched network (claim 19)

the VMSC communicates with the mobile phone through a circuit-switched network and with the H.323 terminal through a packet-switched network (claim 23)

a...("VMSC") communicating with the wireless communication device through a circuit-switched network and with the end terminal through a packet-switched network (claim 24)

a...("VMSC") communicating with the wireless communication device through a circuit-switched network and with the end terminal through a packet-switched network (claim 27)

the VMSC communicating with the wireless communication device through a circuit-switched network and with the end terminal through a packet-switched network (claim 28)

the VMSC communicating with the mobile phone through a circuit-switched network and with the H.323 terminal through a packet-switched network (claim 32)

As discussed above, there is no VMSC in Barany or in any combination of the applied references. Accordingly, for at least this reason, each of the independent claims are patentable over the applied references.

2. Patentability of dependent claims

The dependent claims are believed to be patentable because they depend from allowable independent claims and because they recite additional patentable features.

Conclusion

Insofar as the Examiner's rejections were fully addressed, the instant application is in condition for allowance. A Notice of Allowability of all pending claims is therefore earnestly solicited.

Respectfully submitted,

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June 13, 2005 By: Clark Jablon

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